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10/562,899	12/29/2005	Erwin Rinaldo Meinders	NL 030763	6915

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EXAMINER

SASINOWSKI, ANDREW

ART UNIT	PAPER NUMBER
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4163

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/562,899

Applicant(s)

MEINDERS, ERWIN RINALDO

Examiner

ANDREW J. SASINOWSKI

Art Unit

4163

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 December 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-85/86)
- Paper No(s)/Mail Date 5/15/2007
- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 4, 11 and 16 are rejected under 35 U.S.C. 112 2nd paragraph as having a broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation in the same claim.

3. A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949).

4. In the present instance, claim 4 teaches: "wherein said displacement means comprises an actuator" which is the broad recitation, and the claim also recites "wherein said displacement means comprises an actuator, in particular a piezo-electric actuator

or a thermo-mechanical cantilever” which is the narrower statement of the range/limitation. In terms of the present examination, the broadest interpretation was examined.

5. Claim 11 teaches: “Method as claimed in claim 10, wherein said method is used, for simultaneously recording more than one information” which is the broad recitation, and the claim also recites “Method as claimed in claim 10, wherein said method is used, for simultaneously recording more than one information, in particular for simultaneously recording more than one subsequent channel bits of a 1D channel code, more than one channel bits of parallel tracks of a 1D channel code or more than one channel bits of parallel bit rows of 2D channel code” which is the narrower statement of the range/limitation. In terms of the present examination, the broadest interpretation was examined.

6. Claim 16 teaches: “an interface layer” which is the broad recitation and the claim also recites “an interface layer, in particular a metallic interface layer” which is the narrower statement of the range/limitation. In terms of the present examination, the broadest interpretation was examined.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1 – 2, 4 – 5 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Mamin ["Thermal Writing Using a Heated Atomic Force Microscope Tip", Applied Physics Letter, vol. 69, no. 3, 7/15/1996, pages 433 – 435.]

Regarding claim 1, Mamin teaches:

- Device for making a master record carrier for use in making a stamper for making replicated read-only optical record carriers **[pg. 433, col. 1, lines 1 – 10, note also that “for use in making a stamper for making replicated read-only optical record carriers is a statement of intended use]**, comprising:
 - a recording head for recording information in an information layer of a master record carrier **[pg. 433, pg. 433, col. 1, lines 1 – 10]**,
 - said recording head including a heatable tip which can be displaced in at least one direction **[pg. 433, col. 1 lines 21 - 41]**,
 - a displacement means for displacing said tip in the at least one direction **[pg. 434, col. 2, lines 18 – 32]**
 - a heating means for heating said tip **[pg. 433, col. 1, lines 21 – 40]**
 - and a control unit for controlling said heating means and said displacement means such that for recording a mark said tip is heated and displaced to be in contact with said information layer causing an indentation therein **[pg. 434, col. 2 lines 18 – 32]**.

Regarding claim 2, Mamin teaches:

- Device as claimed in claim 1 **[see above]**,

- wherein said heating means comprises a current source **[paragraph spanning pages 433 – 434]** for providing an electric current for flowing through said tip when a mark shall be recorded **[pg. 434, col. 2, lines 18 – 32]**.

Regarding claim 4, Mamin teaches:

- Device as claimed in claim 1 **[see above]**,
- wherein said displacement means comprises an actuator, in particular a piezo-electric actuator or a thermo-mechanical cantilever **[pg. 434, col. 2, lines 18 – 32]**,
- which is included in said recording head, for causing the displacement of said tip under control of said control unit **[pg. 434, col. 2, lines 18 – 32]**.

Regarding claim 5, Mamin teaches:

- Device as claimed in claim 1 **[see above]**,
- wherein said tip has a conical shape, the top of said conical tip facing said information layer **[fig. 1a and pg. 433, col. 1, lines 21 – 41, note that the tip of a thermo-mechanical cantilever inherently must face the information layer in order to write on it]**.

3. The method taught in claim 10 is inherent to the device taught in claim 1 and is rejected upon the same grounds **[see the claim 1 rejection above]**.

4. Claims 16 and 19 is rejected under 35 U.S.C. 102(b) as being anticipated by Akimori et. al. [US 6,611,492].

5. For claim 16, note that the statement “Record carrier for use as master record carrier by a device as claimed in claim 1” and “information layer for control of the heat diffusion through said information layer” are statements of intended use and carry no significant patentable weight.

Regarding claim 16, Akimori teaches:

- Record carrier, comprising:
- a substrate layer [fig. 2, item 1],
- an information layer [fig. 2, item 2], and
- an interface layer, in particular a metallic interface layer, between said substrate layer and said information layer [fig. 2, item 3] for control of the heat diffusion through said information layer.

Regarding claim 19, Akimori teaches:

- Record carrier as claimed in claim 16 [see above],
- wherein said information layer is substantially made of an organic material [col.5, lines 27 – 39].

6. Claims 17 and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Nishida et. al. [US 5,479,382].

7. Note that for claim 17, “Record carrier for use as master record carrier (80) by a device as claimed in claim 13...” is a statement of intended use and carries no

patentable weight. Furthermore, in claim 18 "...for control of the heat diffusion through said information layer" is also a statement of intended use which carries no patentable weight.

Regarding claim 17, Nishida teaches:

- Record carrier **[fig. 1]** for use as master record carrier by a device as claimed in claim 13, comprising:
- a substrate layer **[fig. 1, item 1]**,
- an information layer **[fig. 1, item 3]**, and
- a photo-sensitive layer between said substrate layer and said information layer **[fig. 1, item 7, also note col. 10, lines 8 – 22]**.

Regarding claim 18, Nishida teaches:

- Record carrier as claimed in claim 17 **[see above]**,
- further comprising a metallic interface layer between said photo - sensitive layer and said information layer **[fig. 1, item 5, also see col. 12, lines 1 – 22]** for control of the heat diffusion through said information layer.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mamin in view of Nakayama et. al. [USPGPUB 2002/0110177].

Regarding claim 3, Mamin teaches:

- Device as claimed in claim 1 **[see above]**

However, Mamin does not teach:

- wherein said recording head further comprises a light deflection means
- wherein said displacement means comprises a light generation unit for providing a light beam, in particular a laser beam, to be directed onto said deflection means
- a light detection unit for detection of light deflected by said deflection means.

Nakayama does teach:

- wherein said recording head further comprises a light deflection means **[\$0079]**
- wherein said displacement means comprises a light generation unit for providing a light beam, in particular a laser beam, to be directed onto said deflection means **[\$0079]**
- a light detection unit for detection of light deflected by said deflection means **[\$0079]**.

It would have been obvious at the time of invention to one with ordinary skill in the art to combine the light deflection means taught by Nakayama with the device taught by

Mamin because rather than using the light deflection means as a scanning device, the light deflection means could be used as a secondary record writing means.

10. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mamin in view of Shen et. al. [US 2002/0154301].

Mamin teaches:

- Device as claimed in claim 1 **[see above]**,

However, Mamin does not teach:

- wherein said tip comprises a metal wire, in particular made of platinum or tungsten.
- wherein said metal wire is covered by a tube, in particular a Wollaston tube.

Shen does teach:

- (regarding claim 6) wherein said tip comprises a metal wire, in particular made of platinum or tungsten **[\$0042]**.
- (regarding claim 7) wherein said metal wire is covered by a tube, in particular a Wollaston tube **[abstract, note that “a wire covered by a Wollaston tube” is equivalent to a wire covered by a layer of silver.]**

It would have been obvious at the time of invention to one with ordinary skill in the art to combine the tip made of tungsten taught by Shen with the device taught by Mamin because using tungsten (rather than boron-doped silicon as taught by Mamin) is a replaceable and interchangeable part which produces predictable results. Furthermore,

it would have been obvious at the time of invention to one with ordinary skill in the art to combine the Wollaston tube taught by Shen with the device taught by Mamin because a Wollaston tube could be used as a corrosion resistance measure.

11. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mamin in view of Kayanagi et. al. [US 5,808,977].

Mamin teaches:

- A device as claimed in claim 1 **[see above]**

Mamin does not teach:

- wherein said control unit comprises a Wheatstone bridge,
- said tip being electrically one bridge element thereof.

Kayanagi teaches:

- wherein said control unit comprises a Wheatstone bridge **[col. 7, lines 16 – 46]**,
- said tip being electrically one bridge element thereof **[col. 7, lines 16 – 46]**.

It would have been obvious at the time of invention to one with ordinary skill in the art to combine the use of a Wheatstone bridge taught by Kayanagi with the device taught by Mamin because the Wheatstone bridge could be used as a piezo-resistor to detect strain in the cantilever beam.

12. Claims 9 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mamin in view of Kley [US 5,751,683].

Regarding claim 9, Mamin teaches:

- A device as claimed in claim 1 **[see above]**

Mamin does not teach:

- comprising an array of recording heads
- each comprising a heatable tip,
- which can be independently heated and displaced under control of said control unit.

Kley does teach:

- comprising an array of recording heads **[fig. 19]**
- each comprising a heatable tip **[col. 14, lines 48 – 61]**,
- which can be independently heated and displaced under control of said control unit **[col. 14, lines 48 – 61]**.

Additionally, regarding claim 11, Mamin teaches:

- The method as claimed in claim 10 **[see above]**

However, Mamin does not teach:

- wherein said method is used, for simultaneously recording more than one information,
- in particular for simultaneously recording more than one subsequent channel bits of a 1D channel code, more than one channel bits of parallel

tracks of a 1D channel code or more than one channel bits of parallel bit rows of 2D channel code.

Kley does teach:

- wherein said method is used, for simultaneously recording more than one information **[col. 14, lines 40 – 47]**,
- in particular for simultaneously recording more than one subsequent channel bits of a 1D channel code, more than one channel bits of parallel tracks of a 1D channel code **[col. 14, lines 40 – 47]** or more than one channel bits of parallel bit rows of 2D channel code.

It would have been obvious at the time of invention to one with ordinary skill in the art to combine the array of recording heads taught by Kley with the device taught by Mamin because doing so would provide a predictable result, namely that more data could be simultaneously recorded.

13. Claims 12 – 13 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mamin in view of Shimizu [US 5,344,683].

Regarding claim 12, Mamin teaches:

- Device for making a stamper for making replicated read-only optical record carriers, comprising a device for making a master record carrier as claimed in claim 1 **[see above]**

However, Mamin does not teach:

- means for depositing a metallic layer on top of said information layer, and

- means for separating said deposited metallic layer from said information layer to obtain said metallic layer forming said stamper.

Shimizu does teach:

- means for depositing a metallic layer on top of said information layer **[fig. 9d and col. 8, lines 52 – 56]**, and
- means for separating said deposited metallic layer from said information layer to obtain said metallic layer forming said stamper **[fig. 9f]**.

It would have been obvious at the time of invention to one with ordinary skill in the art to combine the depositing and separating means taught by Shimizu with the device taught by Mamin because a master stamper could be made of different materials, such as glass.

The method taught in claim 15 is inherent to the device as taught by Mamin in view of Shimizu **[see claim 12 rejection above]**. Claim 15 is therefore rejected on the same grounds as claim 12.

Regarding claim 13, Shimizu also teaches:

- wherein said master record carrier comprises an additional photo-sensitive layer between said information layer and a substrate layer **[col. 6, lines 63 – 65]**, further comprising:

- a light source illuminating the information layer, after the information has been recorded therein, to cause a photo - chemical reaction in said photo-sensitive layer **[col. 7, lines 8 – 12]** and
- means for developing said photo-sensitive layer before a metallic layer is deposited on top of the information layer **[col. 7, lines 8 – 23]**

It would have been obvious at the time of invention to one with ordinary skill in the art to combine the photo-sensitive layer taught by Shimizu with the device taught by Mamin because the photo-sensitive layer could be replaced with a non-photosensitive layer for the purpose of protecting the information layer from dust or damage.

14. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mamin in view of Shimizu as applied to claim 13 above, and further in view of Akimori.

Mamin in view of Shimizu teach:

- Device as claimed in claim 13 **[see above]**,

However, Mamin in view of Shimizu do not teach:

- wherein said light source is an UV source for illuminating said information layer by UV radiation.

Akimori does teach:

- wherein said light source is an UV source for illuminating said information layer by UV radiation **[col. 14, lines 23 – 26]**.

It would have been obvious at the time of invention to one with ordinary skill in the art to combine the UV light source taught by Akimori with the device taught by Mamin in view

of Shimizu because doing so would provide a predictable result, namely that a wide range of possible recording layer materials made of organic dyes.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANDREW J. SASINOWSKI whose telephone number is (571)270-5883. The examiner can normally be reached on Monday to Friday, 7:30 to 5:00, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Robinson can be reached on (571)272-2319. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Application/Control Number: 10/562,899
Art Unit: 2629

Page 16

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Supervisory Patent Examiner, Art Unit 4163